Gardening Handbooks for Amateurs

POTATOES AND ROOT CROPS

by H. H. THOMAS

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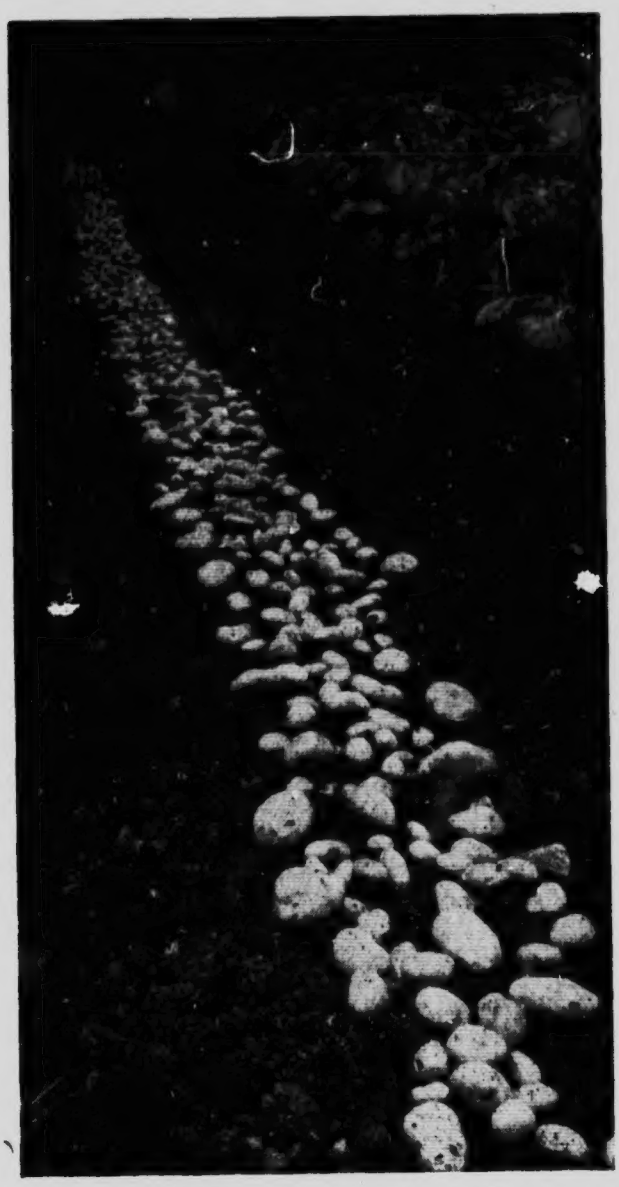
OTATOES AND ROOT CROPS



A profitable row of Sensation Potato

POTATOES AND ROOT CROPS

BY

H. H. THOMAS

Editor of "The Gardener"

Illustrated by numerous Photographs and Sketches

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Potatoes and Root Crops

GENERAL HINTS

Root crops, of which the chief are Potato, Parsnip, Carrot, Beetroot, Turnip, and (so far as the scope of this book is concerned) the Onion, are indispensable vegetables. They appeal especially to the amateur gardener who has comparatively little time for garden work, for, generally speaking, they occupy the ground throughout the season, and the chief labour occasioned by their cultivation is in spring when they are sown, and in autumn when they are taken up for storing. In some gardens the subject of lifting and storing can be lightly dismissed, for all, except the Potato and Onion, may, if necessary, be left in the ground during winter, and be dug as required. This is not advanced as an ideal way of treatment, but that it will answer in an emergency I and others have proved. Even Beetroot may be left in the ground, although if convenience for storage exists it is no doubt better if lifted, and the same may be said of Carrot and Turnip.

Potatoes and Root Crops

In the cultivation of root crops (with the exception of the Onion, which is not correctly placed in this class of vegetables) the great point to bear in mind is that they must have deep soil, free from fresh manure, if satisfactory results are to be obtained. The proper way is to grow them on land that was enriched for a crop the previous year, such, for example, as Celery, Peas, and Beans. The ground will then be in what is called "good heart"; if thrown up roughly in autumn and dug over in spring, it will, with the timely assistance of artificial fertilisers in spring and summer, produce the finest possible crops. If vegetables grown for the sake of their roots are planted on ground that has not been deeply cultivated, or contains fresh manure near the surface, they will be misshapen and altogether poor.

The Potato may be grown on the same ground for many years in succession, and will continue to yield profitable crops, providing the land is manured each autumn, and that a change of seed, grown in a distant district, is obtained every other year. However, when dealing with a comparatively small plot of ground, it is advisable to arrange a proper rotation of crops, and particularly if ample supplies of manure are not available.

The best way is to make a plan of the ground on paper, marking it off into three or four divisions.

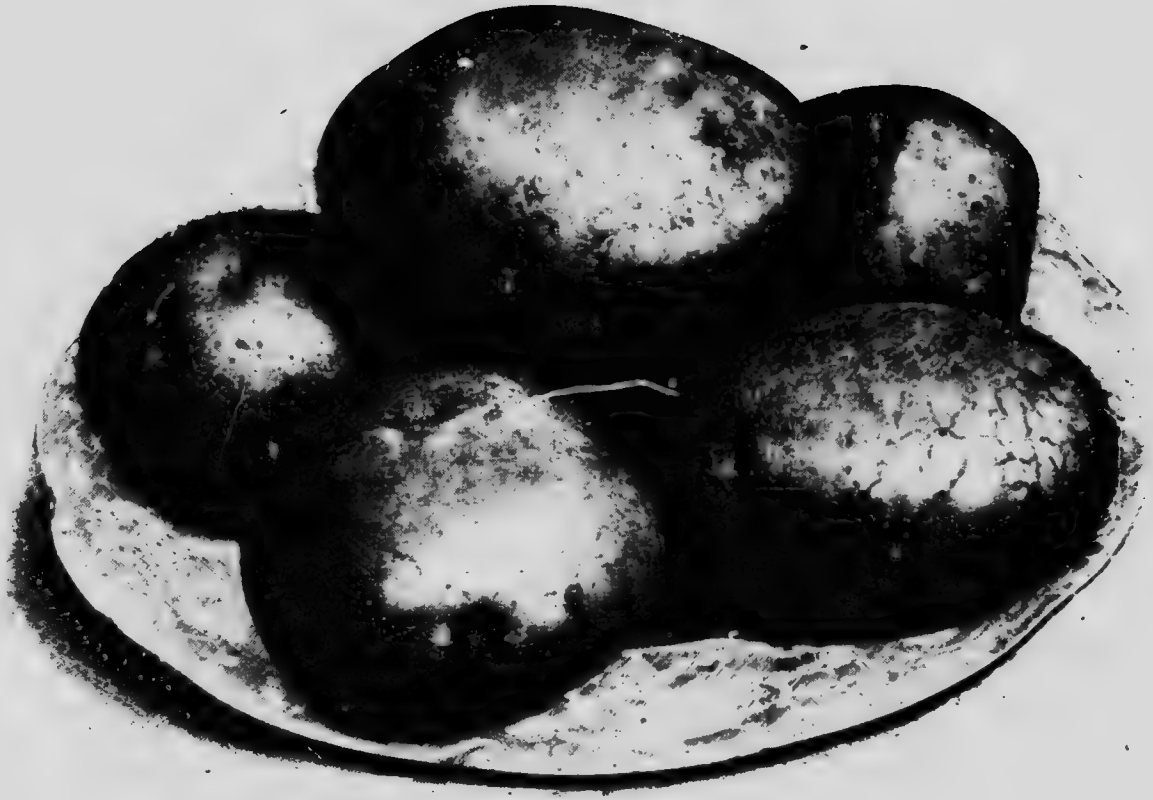
The crops of the first division will be succeeded by those of the second; those of the second by the crops of the third, and so on. Thus the root crops can follow Peas, Beans, Celery, etc., and in their turn be followed by Cabbage, Cauliflower, etc., while the next crop may be of Potatoes. Thus no crop will be on the same soil more than once in four years if the plot is separated into four divisions.

THE POTATO

ALTHOUGH the Potato is the commonest of vegetables and will grow and yield a crop on almost any ground, satisfactory results are obtained only by proper methods of cultivation, to which the amateur is strongly advised to pay attention. It is wasteful to spend money on seed Potatoes, and labour in tending the plants, if due regard has not been given to the preparation of the land. It goes without saying that deep, loamy soil is the best of all for Potatoes, and likely to give the largest yield of fine tubers; but such ground is not always available, and the amateur must make the best of that which he has.

The Proper Way to Prepare for Potatoes is to " bastard trench " the soil in autumn. This is accomplished by taking out a trench 2 feet wide, and one " spit " or spadeful deep, across one end of the plot, the soil taken out being placed where the trenching will finish. Stable manure is then scattered in the bottom of the open trench, and well mixed with the soil there, by digging with spade or fork. The upper spit or spade depth of soil from the next 2 feet width of ground is then placed on top of the manured portion, thus filling the first trench, and opening a second trench, one " spit " deep. Stable manure is spread in the bottom of the second trench, and this is dug over so that the soil is thoroughly loosened, and the manure mixed with it. In this way the work proceeds until the end of the plot is reached. The surface of the soil ought to be left quit rough; there must be no attempt to make it level and " workmanlike " for the sake of appearance. It will then be in excellent condition for planting in March or early April.

If the Ground is Heavy, such materials as leaf-soil and road scrapings (providing they do not come off tarred roads or those on which there is much motor traffic) help to make it more workable, while for light soil cow or pig manure is



Potato Goldfinder

best, and decayed vegetable refuse is also excellent. If yard manure is difficult to obtain, the amateur is strongly advised to use basic slag, and to apply it at the rate of half a pound per square yard, in autumn. It should be mixed

Seed Potato as Sprouted in shallow box

Potato "Set" disbudded ready for planting

with the lower soil in the way advised for applying stable manure. Providing the soil is not deficient in lime, superphosphate, 2 oz. per square yard (4 lb. per. rod), may, with advantage, be scattered on the soil and forked beneath the surface before planting. Sulphate of ammonia, 1 oz. per square yard (2 lb. per rod), may be used similarly. An application of these fertilisers just before earthing up does good.

Potatoes may be grown on the same plot of

ground for many years in succession if necessary, providing the crop is free from disease. If, however, a proper rotation of crops is followed,

Place the seed potatoes on end in a shallow box near a room window, or in a frost proof greenhouse, they will then sprout.

there ought to be no difficulty in giving the Potatoes a change of soil every two or three years.

Seed Potatoes. — Many amateurs purchase their seed Potatoes in a hapl zard fashion, from

the nearest shop, without regard to the variety or to the size or healthiness of the tubers, and more often than not they reap disappointment in poor and sometimes diseased crops. Great care ought to be taken in purchasing seed Potatoes, and it pays abundantly to obtain them from a reliable seedsman or merchant. It is found that Potatoes which weigh from 1½ to 2 ounces each are best for seed purposes, and those sold by good firms are approximately of this size, from eight to ten tubers making 1 lb. of so-called "seed." Another great mistake made by amateurs is in planting, year after year, "seed" tubers saved from their own crop. It is essential to success to have a change of "seed" frequently, and it is best to obtain this from another district. That from Scotland or Ireland is recommended.

Seed tubers of the size mentioned should be planted whole; there is no advantage in cutting them. Tubers smaller than, say, a bantam's egg, are not likely to give good crops, and it is a mistake to plant them, unless for the purpose of increasing a special variety. Use may be made of large Potatoes, providing they are cut into several pieces, and that each piece has one or two good "eyes." If large Potatoes are planted whole some of them may fail to grow.

Storing Seed Potatoes. — If the amateur wishes to save "seed" from his own garden, he should select them at the time of digging the crop in autumn, choosing sound tubers of the size recommended. They are placed end uppermost, in boxes or wooden trays, and kept in a light, frost-proof place during winter, in a temperature not exceeding 40° to 45°. A large number may be kept in a small space, if one box is placed crosswise on top of the other, so that all the tubers are exposed to the light. Boxes 2 feet long, 18 inches wide, and 6 or 7 inches deep are most suitable. They ought certainly to be not less than 6 inches in depth, especially if they are to be placed one on top of another, otherwise some of the Potatoes will not get their fair share of light. When seed tubers are purchased (and, as already stated, it is advisable to buy fresh "seed" in alternate years, or certainly every two years), they should be ordered early in January, and, when received, must be placed in similar boxes to those described.

"Sprouting" Seed Potatoes.—The subject of sprouting seed Potatoes before planting is one to which the amateur ought to give consideration. If he plants large quantities, he may not have sufficient boxes or room enough in which to

store them; but if comparatively few are grown it is certainly advisable to make an effort to sprout them all. It has been proved that Potatoes which have sprouted, or started into growth, before being planted, give more satisfactory crops than those planted while still dormant. If, however, it is out of the question to sprout all of them, the main crop varieties may be planted as they are, but the early varieties should certainly be treated in this way. It is important to keep the seed tubers in a light, cool place; if placed in darkness, in heaps, they are liable to start into growth, and to make thin white shoots that are useless.

Several little shoots will appear on the seed Potatoes in spring, and it is best to remove some of them before planting takes place. The greater the number of shoots left on the tubers at planting time the more numerous will be the Potatoes dug, but they will be small. The way to get large Potatoes is to rub off all shoots except one strong one at the top; to obtain a good crop of fair-sized tubers two, or at the most three shoots should be left on each one.

Planting.—The question as to the best time to plant cannot be answered definitely, because something depends upon the weather and the

state of the ground, but Potatoes must be got in some time between the middle of March and the end of April; in fact, as soon as the soil is comparatively dry and workable. A start should be made with the early varieties, which ought

to be planted in March. On heavy soil it is an advantage to place a layer of old leafmould or potting soil in the bottom of the furrow, with the object of encouraging early rooting. The rows of first early varieties need not be more than 15 or 18 inches apart, while, in the row, the tubers are placed 9 inches from each other. The furrow should be of such a depth that the

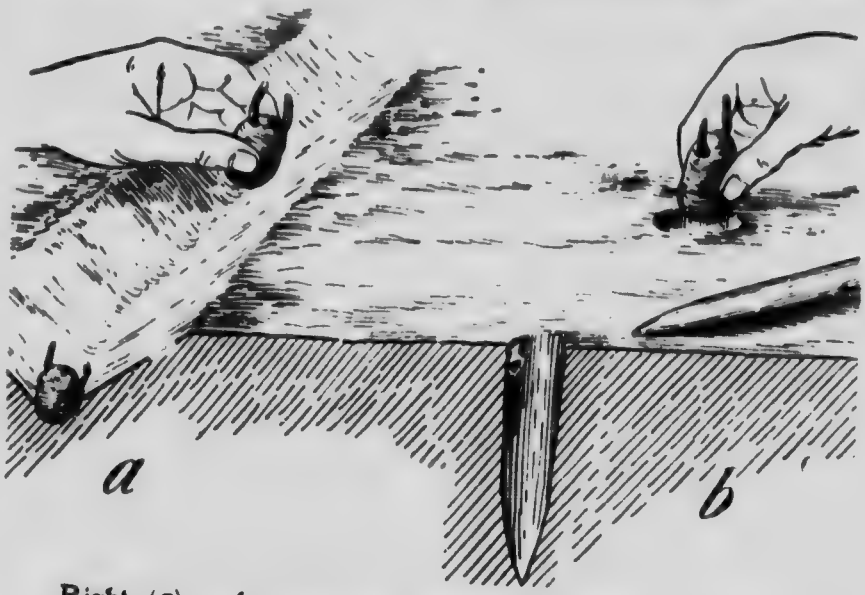
tubers will be covered with 3 or 4 inches of soil when the ground is levelled again. They are, of course, placed on end, the sprouted end uppermost; if not sprouted, the end containing the best eyes is placed uppermost.

First Early Potatoes will be ready to dig as New Potatoes during the first or second week in July if planted in an open part of the garden; if, however, they are grown on a warm and sheltered border they will be ready towards the middle or end of June.

Second Early Potatoes will be ready to dig during August. They make more vigorous growth than the first early varieties, and consequently should be planted rather wider apart. The rows ought to be 18 to 20 inches from each other, and the sets or tubers should be 12 inches apart in the row.

Maincrop Potatoes are ready to dig from the middle to the end of September; by then the haulm or growth will have died down. The rows ought not to be less than 2 feet apart, while the tubers must be put from 12 to 15 inches apart in the row. Some of the maincrop varieties are very vigorous, and nothing is gained by planting them more closely than this. The tubers should be put at such a depth that they are covered with

5 or 6 inches of soil. Most cottagers and allotment holders plant Potatoes with a dibber, but it is not the best way. In fact, on heavy ground, it is the worst possible method. When the area of ground to be cropped is comparatively small,



Right (*a*) and wrong (*b*) methods of planting Potatoes

the time and labour required to get out a small trench is not worth consideration, and this practice is much better than boring a hole with a dibber and placing the Potato in that.

"Earthing Up."—The only attention required by Potatoes during their early stages of growth is that of hoeing. The hoe ought to be plied freely to keep down weeds, and it will have

the effect, also, of rendering the work of earthing up easy, for the soil will be well broken. The Potatoes should be earthed up when the shoots are about 8 inches high. A week or so before, it is beneficial to apply a dressing of old soot or superphosphate of lime alongside the rows. A handful of either of these is sufficient for half a dozen plants. The object of "earthing up," or drawing the soil to the stems of the plants so that ridges and furrows are formed, is to support the stems, and to ensure that the tubers are covered with soil; thus they are kept white, and in the best condition for consumption. If Potatoes are exposed to the light they turn green, and are then not fit for use; in fact, green Potatoes are said to be poisonous to some degree. If the work of earthing up is not done with care, it will be found, on digging up the tubers, that those nearest the surface are discoloured, because they were not sufficiently covered. If the Potatoes were planted at the depth directed on another page, the earthing can be completed on one occasion, except in the case of vigorous varieties, which may need further attention later in the season. A method advocated by some growers is to plant still more deeply than advised here, and to dispense with earthing up altogether; but the amateur will

British Queen Potatoes

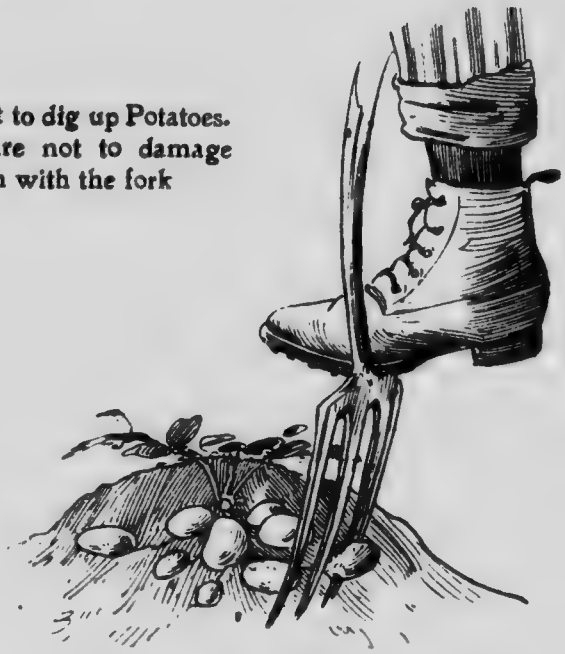
find it best to practise the orthodox method of earthing up the plants at least once during the season, if only for the sake of supporting the haulm, or leafy stems. If not supported, they are liable to be blown down and damaged during heavy rain or stormy weather.

Lifting and Storing.—It is advisable to lift the first early varieties as soon as they are ready (which will be towards the end of June to the middle of July), so that the ground can be planted with Brussels Sprouts, Kale, Savoy, or other autumn and winter vegetables.

The maincrop varieties ought to be lifted by the end of September, for nothing but harm can follow if they are left in the ground after the haulm has died down. A dry day should, if possible, be chosen for Potato digging; the work can then be carried out more conveniently than during wet weather, and the Potatoes, being dry, may be stored at once. Care must be taken not to leave them exposed to the light, or their quality will be impaired.

They may be stored for the winter in a dark, frost-proof shed or outhouse, or, if there is no suitable building, they can be clamped out of doors in the garden. The clamp or store may be either round for small quantities, or oblong

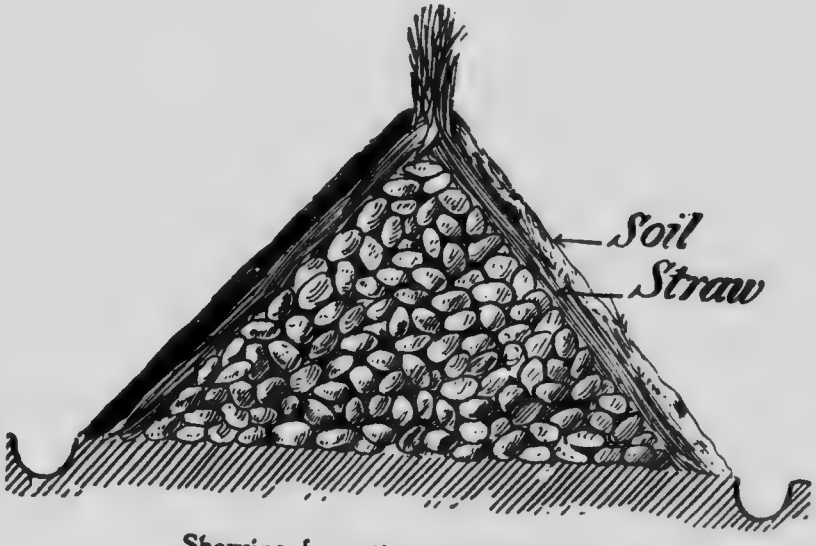
and of the length required, for large numbers. The position chosen should be as dry as possible, and in order to ensure the escape of surplus water, it is best to dig a small trench all round the base of the clamp. The soil is covered with ashes and



How not to dig up Potatoes. Take care not to damage them with the fork

the ashes with straw; then come the Potatoes, which should be looked over carefully as they are put in, to make sure that only sound tubers are stored. If decayed or diseased ones are put in, they will contaminate others. It is necessary to be very careful in this matter when storing Potatoes in a clamp, for they cannot be examined

Circular Clamp for Potatoes



Showing formation of Potato Clamp

readily. They should be arranged in a conical heap (gradually tapering towards the top). Before putting in the last two or three layers, insert a small bundle of straw, one end among the tubers, the other end to emerge above the clamp; this is to allow of the escape of moisture, and to admit a little air. When the heap is complete, cover it with a good layer of straw, and finally with soil to the depth of 3 inches or so. Make the soil firm with the back of the spade.

The Selection of Varieties is an all-important matter, for some are much more reliable, and some are more susceptible to disease than others. Those who continue to plant varieties which were popular many years ago, and take no trouble to ascertain whether or not they have been superseded by more modern and more prolific varieties, have only themselves to blame if they dig a moderate crop The most remarkable yield that has come to my notice was obtained from new variety called Drummond Castle; from 1 of seed no fewer than 204 lb. of Potatoes were gathered. This is no doubt an unusual experience, but it shows how important it is to study the lists of varieties and to choose the best.

First Earlies.—(Plant in March and dig late in June and early in July.) Some of the best are

Sharpe's Express, May Queen, Midlothian Early, Dunnottar Castle, Ringleader, New Colonist, Harbinger, and Webb's Express.

Second Earlies.—(Plant in March or early April and dig in August.) Excellent sorts in this class are British Queen, Warwick Castle, New Guardian, Sutton's Acquisition, Edinburgh Castle, Snowdrop, and Dobbie's Favourite.

Maincrop Varieties.—(Plant in March or during the first fortnight in April and dig in September.) There are innumerable sorts, both old and modern, from which to choose, and the following is a selection of the best: King Edward VII., Arran Chief, Sutton's Abundance, The Provost, Webb's Goldfinder, Drummond Castle, White City, The Factor, Langworthy, Golden Wonder, The Chapman, and Sensation.

New Potatoes in Autumn.—The way to obtain new Potatoes for use in September and onwards is to keep back a number of seed tubers when planting in spring, and store them in a light, cool place until July. If then planted, they will yield a most welcome crop of young Potatoes in autumn. Only an early variety should be chosen.

The Potato Disease.—The common Potato disease causes serious damage to crops in garden

and field every year, though in a wet, dull season it is usually most destructive. The first symptoms of attack are seen in yellowish spots on the leaves, and subsequently the plants turn black and an unpleasant smell is given off. Little or nothing can be done to Potatoes that are badly attacked. The best preventive is to spray the plants with Bordeaux Mixture in July, and again about three weeks later. This often has the effect of preventing attacks, or at least of rendering them less virulent. Bordeaux Mixture is prepared as follows: Dissolve a handful of lime in 10 gallons of water, and 1 ounce of copper sulphate in a little boiling water. Pour the latter in the lime water and stir well. This mixture should be prepared in a wooden vessel. Bordeaux can be obtained in concentrated form, ready for mixing, and amateurs will find it more convenient to obtain it in this way than to mix it.

Black Scab, or Wart Disease of Potatoes, is a serious malady, and is classed by the Board of Agriculture as notifiable It is illegal, without a licence, to plant any Potatoes on ground which has had a crop of tubers affected by wart disease. This malady is recognised by the somewhat sponge-like outgrowths which are seen on the Potatoes, and cause their decay. There is apparently no

remedy, but a list has been prepared by the Board of Agriculture, giving the names of varieties which have been proved to resist wart disease, and it behoves every Potato grower to become acquainted with them.

Potatoes that Resist Wart Disease.—The varieties of Potatoes described in the following list have all been tested experimentally by the Board of Agriculture and Fisheries, and have been proved resistant to wart disease of Potatoes. The Board recommend all occupiers of land infected with this disease to plant one or more of these varieties, but they take this opportunity of reminding all such persons that it is illegal to plant any Potatoes on land which has been declared by a notice served by a duly authorised inspector to be infected premises, or on land which has been declared to be part of an infected area by an order of the Board, except Potatoes authorised to be so planted by a licence granted by an inspector. The penalty for illegal planting is a fine of £10.

All persons who wish to obtain a licence to plant should make application on a form, which will be sent on demand, addressed to the Horticulture Branch, Board of Agriculture and Fisheries, Whitehall Place, London, S.W. Letters so addressed need not be stamped.

Potato Dobbie's Favourite

List of Varieties Recommended for 1917

Early

A1 (Sutton).—The tubers are round, of medium size, with a white skin and yellow flesh. Quality good. It crops moderately well and is suited for garden cultivation.

Resistant Snowdrop (Dobbie).—The tubers are kidney with white skin and white flesh. It crops well and its quality is fairly good.

Edzell Blue.—The tubers are round, skin coloured and flesh a pure white. It crops well and the quality is excellent. Highly recommended for gardens and allotments.

Second Early

Conquest (Findlay).—The tubers are round with a white skin and white flesh. The variety crops well.

King George (Butler).—The tubers are elongated with shallow eyes. In many respects the variety resembles British Queen. It is a heavy cropping variety, but the quality is not very good.

Great Scot (McAlister).—One of the best of the second early varieties. The tubers are round with moderately deep eyes. The skin and flesh are white. It is a very heavy cropping variety, and the quality is good.

Sir Douglas Haig (Sands).—Indistinguishable from Great Scot.

Southampton Wonder (Toogood).—Indistinguishable from Great Scot.

The Duchess (Dobbie).—The tubers are round, skin white, flesh white and eyes rather deep. It crops well.

The Ally (syn. *The Ally*).—The tubers are usually oval, but the shape varies. The skin and flesh are white; eyes shallow. It is a very heavy cropping variety, but the quality is only fair.

Late or Maincrop

Abundance Type

These resemble Abundance in most respects.

Abundance (Sutton).—The tubers are round to oval and flat. The skin and flesh are white and the eyes shallow. The cooking quality is good. The variety crops well, but it is rather liable to the common Potato disease (*P. Infestans*).

Culdees Castle (G. R. Sharp).—An early maincrop which resembles Abundance.

King Albert (Sands).—An early maincrop which resembles Abundance.

The Provost (Dobbie).—Of the Abundance type.

Crofter (Dobbie).—Of the Abundance type.

Jeanie Deans (Findlay).—Of Abundance type.

Favourite or *Improved Favourite* (Dobbie).—A well-known variety of the Abundance type.

Twentieth Century.—Resembles Abundance.

The Admiral Type

The Admiral (Dobbie).—The tubers are flattish-round with shallow eyes. The skin and flesh are white. The variety yields a good crop of moderate size tubers.

Burnhouse Beauty.—This variety does not appear to be so vigorous as The Admiral, and the foliage is inclined to curl. The tubers are round or pebble-shaped. The skin and flesh are white and the eyes shallow.

The Laird (Davie).—The tubers are round; larger than Admiral. The variety crops well on certain soils in many Midland districts.

Langworthy Type

Langworthy (Niven).—The tubers are kidney shaped. The skin and flesh are white and the eyes shallow. It crops well on some soils, but it requires a long season of growth and good cultivation. If possible, the " seed " should be sprouted. The quality is excellent.

What's Wanted (Niven).—Resembles Langworthy.

Golden Wonder (Brown).—The tubers are kidney shaped. The skin has a characteristic yellowish russety-brown tinge. The flesh is white and the eyes shallow. The quality is excellent. The variety crops well on some of the soils of Lancashire, and it is one of the late-keeping varieties. It requires a long season of growth, and if possible the "seed" should be sprouted. Not suited for heavy soils.

White Round or Oval Section

Rob Roy (McAlister).—The tubers are flattish oval, with very shallow eyes. The variety crops moderately well.

The Lochar (Farish).—The tubers are round, with eyes of medium depth. The skin is white, with a faint tinge of pink. The flesh is white. This variety yields a heavy crop of medium-sized tubers. Appears fairly resistant to common Potato disease.

Heather Bountiful.—Resembles Lochar.

Leinster Wonder (Sands).—The tubers are round with a white skin, sometimes showing a faint trace of pink. The eyes are shallow. The variety crops well and appears to be fairly resistant to common Potato disease (*P. infestans*).

The Templar (Wilson).—The tubers are flattened oval. The skin is white and the flesh white. The

variety yields a heavy crop of medium-sized tubers of very good quality. It appears to be fairly resistant to ordinary Potato disease (*P. infestans*).

White City (Sutton).—The tubers are long, flat, kidney-shaped and tapering, with very shallow eyes and a russet skin. The flesh is white and the quality good. The variety crops well. Unfortunately many of the stocks of this variety are very mixed, generally with a smooth-skinned variety very susceptible to wart disease.

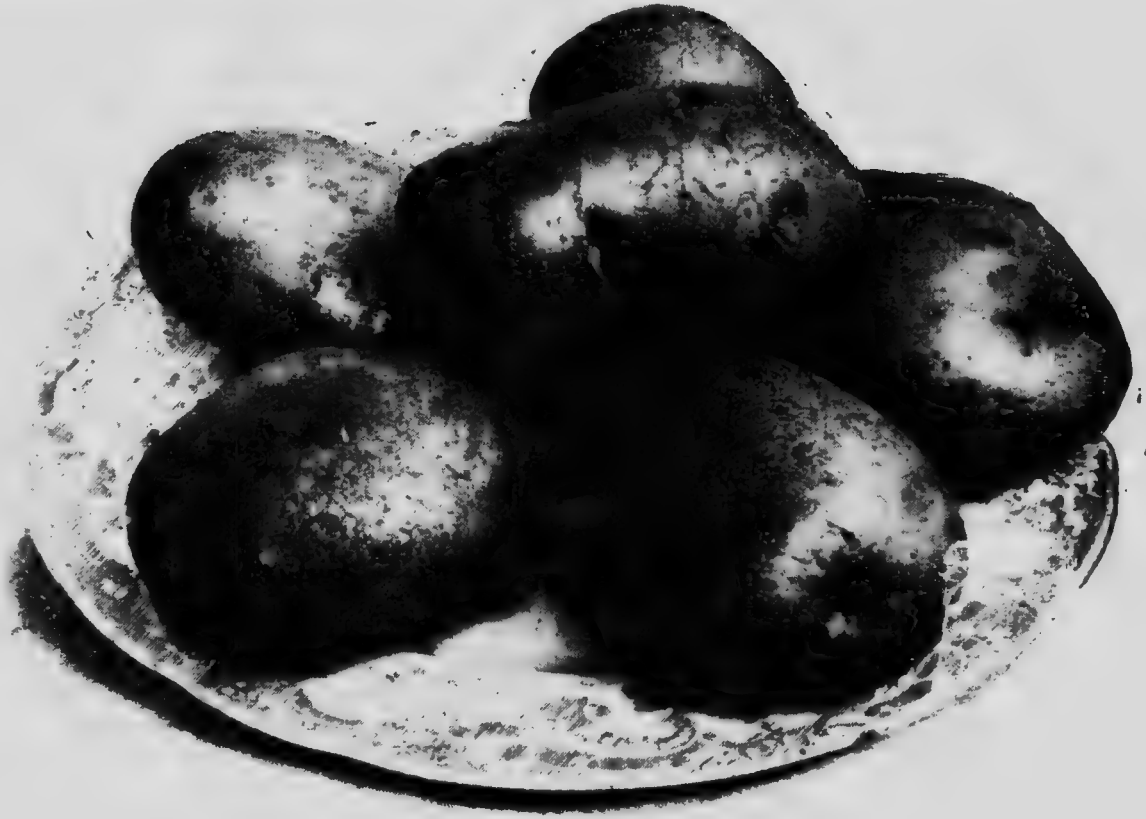
St. Malo Kidney.—The tubers are kidney-shaped and large, with shallow eyes. The skin and flesh are wh The variety crops well, but it is advisable to t the " seed " before planting.

Dominion (Poad).—The tubers are flattened oval, often elongated, in many respects resembling the tubers of Up-to-Date. The skin and flesh are white and the eyes shallow. The variety crops well.

Coloured Round or Oval Section

Kerr's Pink.—The tubers are round, with a light pink skin. The flesh is white and the quality excellent. The variety yields a very heavy crop of good-sized tubers. It also appears to be fairly resistant to ordinary Potato disease (*P. infestans*).

The Rector (Wilson).—The tubers are round, with rather deep eyes. The skin is red and the



The Provost Potato

flesh white. It yields a heavy crop of medium-sized tubers which are of excellent quality. The variety appears to be highly resistant to ordinary Potato disease (*P. infestans*). Can be thoroughly recommended to growers who require a good-keeping Potato of first-class quality.

Irish Queen (Sands).—The tubers are round, with pink skin and very deep eyes. The crop is fairly heavy, and the variety will keep late.

Shamrock (Sands).—The tubers are round, rather rough in shape with a reddish-pink skin. The eyes are numerous and deep, and the flesh white.

There are several other immune varieties for which approval may be obtained if desired, such as Aberlady Early, Mr. Bresse, Border Queen, Snowball, Entente Cordiale (Findlay) (second early varieties), and Supreme (Sutton), Flourball (Sutton), Adirondack (late varieties).

Occupiers of wart disease infected premises are reminded that it is illegal to plant any Potatoes on their premises, whether of the above-named varieties or not, except with the licence of the Board of Agriculture and Fisheries.

The following varieties are highly susceptible to wart disease of Potatoes, and cannot be planted on infected premises :

Early Puritan, Epicure, Midlothian Early, British Queen, Duke of York, Sharpe's Express, Sharpe's Victor, Sir John Llewellyn, Evergood, Cora, Cigarette, King Edward VII., Up-to-Date, Dalhousie, Duchess of Cornwall, Arran Chief, Factor and Prolific.

[*This list is taken from the Leaflet published by the Board of Agriculture and Fisheries.*]

ARTICHOKES

Artichoke, Jerusalem.—The tall, vigorous, Sunflower-like stems and the tuberous, somewhat Potato-like roots of this vegetable are familiar to most people, whether they are interested in gardening or not. The roots are [illegible]r too sweet for some palates, but they form a valuable winter vegetable. The Jerusalem Artichoke will thrive in any well-dug soil in which some yard manure has been mixed, preferably at least a foot below the surface. The tall, leafy stems form an effective screen in summer, and the plants should be grown in such a position that they afford welcome shelter from the north and east. It is obviously unwise to plant them on the southern side of the kitchen garden, for then they would cast a certain amount of shade.

There is nothing difficult in the cultivation of this vegetable. The roots or tubers are planted early in March about 2 feet apart. If more than one row is needed, the second row should be from 2 to 3 feet from the first one. The roots are covered with about 5 inches of soil. No attention is required during summer, unless dry, hot weather lasts for several weeks, when a soaking of water does good.

Towards the end of October the stems are cut down, and subsequently the roots may be dug as required. It is a mistake to plant a greater number of Jerusalem Artichokes than are required, because any left in the ground will grow again the following year and they may be something of a nuisance in that particular position. When taking up the roots, it is necessary to remove all pieces, otherwise they will start into growth the following spring. The white variety of Jerusalem Artichoke is preferred by most people to the purple-skinned one.

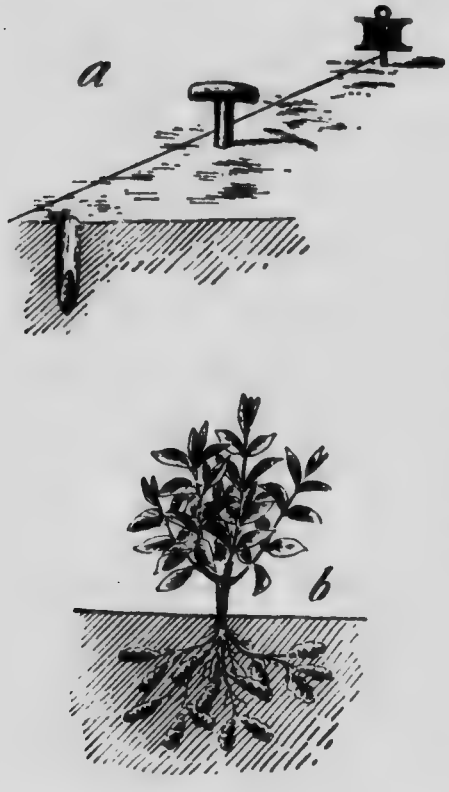
Artichoke, Chinese.—This is less often grown than the Jerusalem Artichoke, and, in fact, comparatively few amateurs include it in their collection of vegetables. As shown in the illustration, the roots are conspicuously ridged, and are of curious and distinct appearance. There is little

to say concerning its cultivation. The roots are planted during March when the ground has dried moderately; they are put about 10 inches apart and ought to be covered with 3 or 4 inches of soil. The plants require no attention during summer, though all weeds should be kept down by hoeing. In autumn the stems die down and the roots may be lifted for use as required. If it is decided that the ground on which the Chinese Artichoke is to be grown requires a dressing of manure, this should be placed at least 12 inches below the surface.

BEETROOT

THE Beetroot, or Beet, as it is commonly called, is of chief value as a salad, and the average amateur does not wish to grow much of it. That, perhaps, is all the greater reason why it should be grown well. In common with all root crops, Beetroot ought not to be sown on land that has been enriched recently with stable or yard manure; if this precaution is neglected, the roots will not be perfect. The best and, in fact, the only proper method is to cultivate this crop on ground that was enriched the previous year for such as Peas, Beans, or Celery, for example. There is

no excuse for failing to get the ground in proper condition, for it is not advisable to sow seed until early in May. The gardener, therefore, has ample opportunity of digging the soil deeply



Chinese Artichoke. The tubers are planted at 10 inches apart in a row (*a*). The roots and plant are shown at (*b*)

during the winter and spring months. Beetroot is one of the least suitable of all crops for freshly turned-up land.

The Seed is Sown in drills about 12 inches from each other, and is covered with an inch or

so of soil. Thinning must be carried out so that eventually the seedlings are from 9 to 10 inches apart. This work is, of course, done gradually, and should be taken in hand early; the seedlings, if allowed to crowd each other, are liable to be spoilt. The only attention needed during the summer months is to ply the hoe frequently between the rows; this will serve to keep down weeds and to aerate the soil, and thus promote the growth of the plants.

It is usual to gather and store Beetroots early in October, and this is no doubt the best way of dealing with them. This practice has, however, led to this vegetable being considered more tender than it really is. It may be left in the ground to be dug as required, especially in well drained land and in a warm garden, though it is advisable, if not essential, to take measures to protect the roots in severe weather by spreading bracken, strawy litter, or some other similar material on the ground. This precaution also enables the roots to be dug in frosty weather, for it will be found that the soil beneath the covering is sufficiently soft to allow of the Beetroot being lifted. Those who have the necessary accommodation for storing the roots are advised to lift Beetroot in autumn, and especially if their land is

heavy. Those not having facilities for storage should not, for that reason, neglect to grow this vegetable; the roots run no great risk in the ground if given such slight protection as advised.

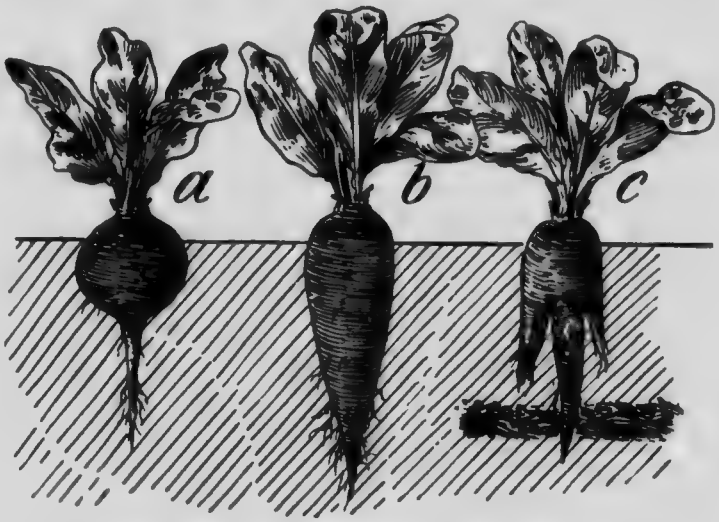
The Best Way of Storing Beetroot is in sand, in a shed or outhouse. A layer of sand is spread on the floor, and a layer of Beetroot is placed upon it. Then comes more sand and more Beetroots, and so on until all are stored. In lifting the crop it is necessary to be careful not to injure the roots with the garden fork, for they "bleed" very readily. The tops ought to be twisted off from 1 inch to 2 inches above the root; they should not be cut off.

There are Two Chief Types of Beetroot, the Long-rooted and the Globe or Turnip-rooted. The latter is very useful for shallow soil, and matures more quickly than the former. Of the Long-rooted varieties, Dell's Crimson, Nutting's Red, both old sorts, and Sutton's Blood Red, a modern variety are to be recommended, while Cheltenham Green Top is also widely grown. Of the Globe or Turnip-rooted varieties, Crimson Globe may be chosen.

Amateurs who do not care to expend too much time upon the cultivation of Beetroot may sow seeds of one of the Globe varieties in early July,

upon well tilled soil; they will thus obtain some serviceable roots in autumn.

The Silver or Seakale Beetroot is somewhat of a rarity in gardens, and those in search of something unusual may with advantage sow a few



Globe (*a*) and Long-rooted (*b*) Beetroot.
The effect of fresh manure in the soil is shown at (*c*)

rows. It has a double culinary value; the midrib and the green portion of the leaf are cooked separately, two dishes thus being obtained.

CARROT

This is one of the most important of all root crops grown in the garden, and one which merits the close attention of the amateur. By sowing proper

varieties at different periods, a long supply of young and old roots can be obtained.

The soil in which Carrots are grown to perfection is light, sandy loam of good depth, and free from recently applied stable manure. That is not to say, however, that gardeners less fortunately circumstanced, so far as the quality of their soil is concerned, may not grow this crop satisfactorily. Much can be done towards improving the ground by trenching it in autumn, and throwing it up roughly for the winter, and, if

Stump-rooted Carrots

Long-rooted Carrots

it is heavy, by adding such material as road-scrapings, leafmould, and old potting soil. On land of this character basic slag, applied in autumn at the rate of half a pound per square yard, is an excellent fertiliser; basic slag contains a good deal of lime, and thus has the effect of improving the texture of the soil and rendering it more workable. Although the finest roots of the Long varieties of Carrot can only be expected from deep sandy loam, there are fortunately the Stump-rooted varieties available for those whose soil is shallow-

To Grow Fine Carrots.—A method followed by gardeners who grow Carrots for exhibition is to bore holes from 1½ to 2 feet deep, and fill them with good, sifted soil, made firm. Three or four seeds are sown on the surface and lightly covered, and finally only one seedling is allowed to remain.

The right way to lift Carrots

In this way long roots of perfect shape are obtained. But the amateur who only requires Carrots suitable for home use need not go to this length, but he should endeavour to get the ground in as good condition as possible by practising the methods advocated.

The Best Time to Sow the Main Crop of Carrots is early in April. The ground having been

forked over and levelled with the rake, the seeds are sown in shallow drills, drawn 10 or 12 inches apart, the seed being only slightly covered. The seed must be scattered thinly, and it is an advantage to mix it with sand to ensure its being distributed evenly. If the seed is sown very thickly, thinning out is a matter of difficulty. Superfluous seedlings must be removed with care, and in good time, though gradually; it will be

Wrong ways of lifting Carrots are shown at (*a*) and (*b*)

found that those removed at the final thinning are of serviceable size. Finally, the plants should be from 6 to 8 inches apart. During summer it is beneficial to give occasional applications of soot, scattering this freely alongside the rows; the soil between the rows must be hoed to keep down weeds and to promote satisfactory growth. The progress of the plants will be disappointing if the soil is allowed to become hard, as it quickly does if hoeing is not practised.

An Early Supply of young roots can be obtained by sowing in fine soil on a hotbed made up in a frame, from November until the middle of February, while a sowing may be made out of doors on a warm border about the middle of the last-named month. The amateur, however, is advised to attend chiefly to the sowing of a maincrop variety in early April. Another most useful sowing may be made in July; this will provide small roots for pulling during the winter months, and thus supplement the supply of large, maincrop Carrots.

Some of the Finest of the Long-rooted varieties for sowing in early April are James' Intermediate, St. Valery, Red Elephant, New Red Intermediate, and Long Red Surrey. Those who have shallow soil to deal with should choose

one of the Stump-rooted varieties, of which a selection may be made from Standard, Champion, and Scarlet Horn. For sowing in July, Early Gem or Shorthorn are suitable. For sowing on a hotbed in winter, choose Early French or Inimitable Forcing; and for sowing out of doors in February choose French Nantes.

Most gardeners lift the maincrop Carrots in Ocober, and store them for the winter in a frost-proof shed, placing them between layers of sand as advised for Beetroot, or merely in a heap and covered with straw. But the roots may, if necessary, be left in the ground throughout the winter, to be taken up as required. If they are lifted and stored—a proceeding to be recommended in preference to that of leaving them in the ground—the tops are cut off to within about an inch of the root.

The Carrot Fly is extremely troublesome in some districts and sometimes to such a degree as to render it almost impossible to grow Carrots successfully. The fly deposits her eggs near the base of the seedlings, and when the grubs hatch out they attack the little plants, causing the leaves to turn yellow, and eventually ruining the crop. Various remedies and preventive measures are recommended. Soot should be scattered in

the drills before the seed is sown, and this substance should also be used freely alongside the rows as soon as the seedlings are through. Some gardeners advise that sawdust soaked with paraffin be scattered alongside the little plants, while syringeing them with weak tar water is another plan. It is important to keep the soil near the seedlings firm by treading, especially after thinning has been carried out.

In districts where the Carrot fly proves destructive the following method, recommended and practised by the Rev. Harold Mayall, is worth a trial:

Carrot Growing in Sand.—A great many people, both amateur and professional gardeners, find much difficulty in Carrot growing. A great deal depends on the nature of the soil and also on the liability of the Carrot to attacks by the Carrot maggot and the Celery fly, which deposit on the plants the eggs that produce the maggots.

For a long time now I have grown Carrots in one way that never fails; I started growing for exhibition in this way, and it succeeded so well that I continue to grow them for household use in the same way. Here is the method: I make a wooden structure about 6 feet 6 inches by 4 feet 6 inches, and about 2 feet in depth, then fill this

with pure sand with a layer of manure at the bottom to create a certain amount of heat. On the top of this I put an ordinary garden frame 6 feet by 4 feet, and again fill this with sand into which is thoroughly mixed a good supply of superphosphates, bone-meal and soot, and, of course, so riddled that there is not a stone in it of any kind from top to bottom. I then sow in this eight lines of Carrots, or at a pinch nine, about 5 inches apart, this giving roughly 16 or more yards of Carrots, and in a space that is very easily handled and easily kept free from weeds.

I keep the light on the frame until they are 3 or 4 inches high, then gradually harden off and take the light away altogether, and one gets Carrots absolutely straight and clean and perfectly free from maggot, fly, or disease of any kind. I thin out to 4 or 5 inches apart, gradually using the young Carrots when they are about 6 inches to 1 foot long, and when they are a fabulous price in the shops.

The same mixture will do for two or three years with the addition of a little soot and thoroughly well forking; after that time, I take it all out, let it lie and get the weather for two or three months, add some superphosphates and bone-meal, and replace it.

By this means Carrots can be easily grown 2 feet 6 inches to 3 feet and longer, and with circumference in proportion, and one Carrot of this size goes a long way in the kitchen operations. This applies to the long Carrot.

I adopt a similar method, bar the frame, with the stump-rooted Carrot, taking out a trench in the garden 1 foot wide and one spade deep and fill entirely with sand and superphosphates. Readers may say "This is all very well when you have plenty of sand," but there are a great many gardens where there is plenty of sand after you have dug two or more spits down, and it is worth while to dig out a big trench and take out the sand for purposes for which it is really useful and then use your trench filled up with leafmould and vegetable refuse and manure to grow a tremendous crop of Peas or Beans, which need this.

Most of the material in the ground is useful for something, and it is one of the great secrets of successful gardening to use the different sorts for the purposes for which they are best fitted; Peas and Beans and Cauliflowers and other gross feeders will *not* grow in sand, Carrots *will*, and will not grow in anything else; and in the Highlands, where it is almost impossible in the winter to get any vegetables unless we grow them our-

selves, we have to use every opportunity that the different soils give us.

One great advantage of growing Carrots in this way is that in winter they will stand the hardest frost, in the sand in which they are grown, without being lifted. One or two points to remember: Sow *very* thinly, cover the seed *very* lightly—in a frame hardly at all—and don't throw away, especially in war-time, the tops of the young Carrots; they are excellent in soups.

CELERIAC

The Turnip-rooted Celery, as Celeriac is popularly called, may be recommended to amateurs who have not hitherto attempted its cultivation. It is hardier than Celery, less difficult to grow well, and forms an excellent substitute for Celery so far as its use in soups is concerned. This plant is of vigorous growth, and forms a large, Turnip-shaped root above the surface of the soil.

Seed should be sown, in March or early April, in a slightly heated greenhouse or frame, in a box of light sifted soil; the seed is covered with a slight sprinkling of sand or sifted soil, a piece of glass is placed over the box, and itself covered with brown paper, to prevent the soil becoming

dry; if necessary, the soil must be moistened by means of a syringe. As soon as the seedlings are large enough to be taken hold of conveniently, they are transferred, at about 2 inches apart, to other boxes filled with a compost of loam and leafmould. If the soil is kept moist, and the temperature of the frame or greenhouse is maintained at about 50°, the little plants will soon become well rooted. They must be gradually hardened off preparatory to being planted out of doors in May.

Celeriac is less trouble to grow than Celery; the latter can only be brought to perfection in a trench in which the soil has been well manured, while Celeriac may be planted in the ordinary way. The plants should be put out at about 15 inches apart each way. A good deal of watering is required in a hot, dry summer, for it is important to keep the soil thoroughly moist. Hoeing is necessary to destroy weeds and to keep the soil surface loose; side shoots should be removed; and an occasional sprinkling of fertiliser is advisable to promote free growth. Remember to keep the soil well away from the roots in late summer, for exposure to sun and air helps their development.

When the growth of the plants has ceased, all

except the central leaves are taken off, and it is usual to lift them and store in sand until required for use. They may, however, be left in the

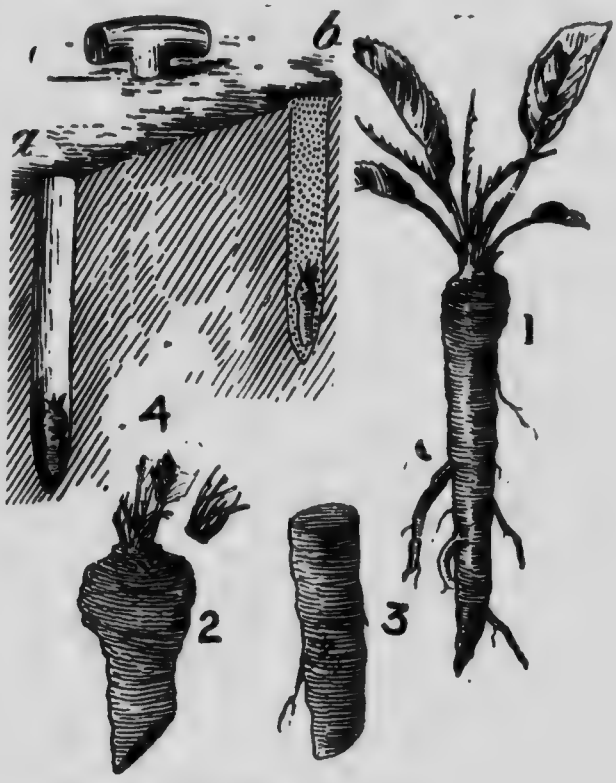
Celeriac or Turnip-rooted Celery

ground, providing they are protected by means of soil drawn up to the roots.

HORSERADISH

HORSERADISH forms a valuable root for use as a condiment to roast beef. The most serviceable

sticks of Horseradish are those which are quickly grown, and long and straight, as Fig. 1 of the sketches herewith. To obtain serviceable sticks as these the ground must be deeply dug, say not



Planting Horseradish *(See references in text)*

less than 18 inches deep, and some decayed manure be incorporated with the lower spits of soil.

Planting is carried out in February or March when the weather is favourable and the soil

in workable condition. Straight pieces of root some 3 or 4 inches in length are the best for planting, and may have a crown at the top, at Fig. 2, or not, as Fig. 3. Sets possessing several crowns should have all but one removed as shown. Use a stout dibber for making the holes, which should be 1 foot deep and the same distance apart each way. Place one set in each hole, as shown at *a* in Fig. 4, and then fill in to the surface with fine soil, as at *b*. After a time growth will make its appearance above the surface, and the roots soon thicken and develop into fine sticks.

KOHL RABI

This vegetable is chiefly valuable as a substitute for Turnips in hot, dry weather, when the latter are difficult to grow to perfection, for it offers less trouble to the gardener when those conditions prevail. Kohl Rabi is not popular in this country, yet on the Continent it is very extensively grown. It is of simple cultivation, and offers no difficulty even to the inexperienced amateur. It requires only ordinary soil. Seeds may be sown at intervals from the end of March until the end of June, and in small quantities, so that a succession of roots of moderate size

may be available; they are of better flavour than large ones. The seeds are sown in shallow drills, about 15 inches apart, and the seedlings are thinned out to 8 inches or so from each other. The flavour of Kohl Rabi is coarser and less sweet

Young (*a*) and Full-grown (*b*) Plants of Kohl Rabi

than that of the Turnip, and does not appeal to all palates; those, therefore, who are trying this vegetable for the first time should sow only a small quantity. There are two varieties offered —the Green and the Purple, the former of which is recommended.

ONION

This is one of the most useful and profitable crops the amateur kitchen gardener can grow, but it must be cultivated properly, otherwise disappointment is certain. It is not a suitable crop

for freshly broken ground, particularly that which has been laid down as pasture for many years. To ensure a first-rate crop of Onions it is advisable to select the position for the bed in autumn, and at that season to have it deeply dug or trenched, and enriched with stable manure, placed 12 inches or so below the surface; the soil being thrown up roughly, or in the form of ridges, so that it may be thoroughly exposed to frost, air, and rain. It will then be in excellent condition for sowing or planting in spring. Before this is done an application of soot may be given with advantage and forked beneath the surface.

Sowing Seed Out of Doors.—For ordinary purposes it is usual to sow the seed out of doors in March as soon as the ground is sufficiently dry to be made firm. Shallow drills are drawn at about 10 inches apart, and the seeds are sown thinly, and lightly covered by means of the rake. The Onion fly is often troublesome to seedlings raised from an out-of-door sowing in spring, and it is usual to scatter a mixture of soot and wood ashes in the drills before the seed is sown, with the object of preventing the Onion fly from depositing her eggs there. Or sand which has been moistened with paraffin may be used, but the former mixture is most advisable.

As soon as the seedlings are through, soot should be scattered freely alongside the rows. Thinning of the seedlings must be practised in good time to prevent their becoming crowded and spoilt, and eventually they should be left at 4 or 5 inches apart if bulbs of ordinary size are required. If, however, it is desired to grow the finest possible Onions, they ought to be thinned so that they are 10 inches from each other. It is necessary to hoe frequently between the rows during summer to keep down weeds, and to promote satisfactory growth. Soot may be sprinkled alongside the rows every three or four weeks with advantage, or, as a change, a mixture in equal parts of nitrate of soda and sulphate of ammonia may be applied occasionally, using not more than ½ oz. to the yard run of row.

Sowing Seeds Under Glass.—Another method of cultivating the Onion which has long been practised by those who endeavour to grow the finest possible bulbs, and is to be recommended to all who have the necessary facilities, is to sow the seeds in boxes of silted soil under glass in January. A temperature of 55° is high enough. The seedlings are potted singly in small pots when large enough to handle conveniently, and are planted on ground prepared as already advised,

in April. The young Onion plants must be grown as hardily as possible, so that they may be sturdy, well-rooted specimens when planting-out time comes. This plan is to be commended to all who have the convenience for carrying it out, for the seedlings are far less likely to be attacked by the Onion fly than those sown out of doors. Those who do not possess a greenhouse or frame may raise the seedlings in a room window in February; after being potted in small pots, or transplanted at a greater distance apart in another box, the small plants will thrive if placed out of doors in a warm and sheltered corner. Plants raised in this way, if set out on a bed of deep and rich soil, made firm, during the second week in April, will produce splendid bulbs: they ought to be planted at about 10 inches apart, the rows being 12 inches from each other.

August-sown Onions.—Another method of raising Onions is to sow out of doors about the middle of August. Seedlings raised by this method are rarely attacked by the Onion fly, because, like those raised under glass, the stems have become fairly hard before this pest is to be feared. The rows should be 10 inches apart, and the seeds may be sown fairly thickly to allow for possible and probable losses during winter. It is a mis-

take to add much manure to the ground for this sowing, for if it is very rich, the seedlings make quick, soft growth, which is liable to damage during winter. August-sown Onions may well follow early Potatoes or Peas that are off the ground in July, and if the soil was manured for those crops, it need only be dug over, levelled, and made firm. These Onions should not be thinned finally until spring; the thinnings will form the familiar "Spring Onions."

Onions for Pickling are sown in March on firm ground that has not been enriched with manure recently. There is no need to thin out the seedlings. The bulbs, which will be small but abundant, will be ready for taking up in August. The most suitable variety is Silver Skin.

Some of the best varieties of Onion for sowing out of doors in March, or under glass in early spring, are Ailsa Craig, Bedfordshire Champion, Premier, and Rousham Park Hero. Varieties suitable for sowing in August are Ailsa Craig, Giant Rocca, and Tripoli.

PARSNIP

ALTHOUGH there are a few people who do not care for the Parsnip, it may be described with

truth as a popular vegetable, and is largely planted by allotment holders and cottagers. The reason is not far to seek. The Parsnip is easily grown, it may be left in the ground during winter and dug as required, and the food value of one well-grown root is considerable. Anyone can grow excellent Parsnips if he will take care to sow the seeds on soil that has been deeply dug but not recently manured. There appears to be no reasonable limit to the size to which the Parsnip can be grown, if the soil is in what the gardener calls "good heart" and deeply trenched. It is not unusual to see specimens at exhibitions measuring 2 feet and even 3 feet in length. If yard manure is added to the ground, many of the roots will be forked and otherwise misshapen. If the soil is dug 2 feet deep in autumn or early winter and thrown up roughly, it will crumble to a fine tilth towards the end of February or very early in March, and be in excellent condition for sowing.

The Parsnip must be allowed as long a season of growth as possible, therefore seed ought to be sown towards the end of February or early in March, according to the state of the ground. It is better to wait a week or two rather than to sow when the land is sodden.

Two methods of sowing are open to the grower ; he may place three or four seeds at intervals of 9 inches along the row, or he may scatter the seeds thinly all along the row, subsequently thinning the seedlings to 9 inches apart. If the first-named method is practised, it is necessary merely to remove all the seedlings except the finest at each "station." The distance between the rows of Parsnip should be 18 inches. Two excellent varieties are The Student and Hollow Crown.

It is a mistake to dig Parsnips before they are wanted, and to enable a supply to be gathered at any time it is advisable to scatter straw over a portion of the bed if frosty weather threatens.

SALSAFY

This is a root crop that is seldom seen in the gardens of amateurs, yet it is worth growing if only for the sake of the variety in vegetable fare it affords during winter. The secret of success is to sow in deeply dug ground that is in a good state of cultivation, but which has not recently been enriched with fresh stable manure. If the soil is heavy it can be improved considerably by being thrown up roughly in autumn, by applying basic slag at that season, and by the

addition of leafmould and road scrapings. The best time to sow seed is in the first week of May; the drills should be about 15 inches apart, and the seedlings must be thinned out until they are 8 or 9 inches from each other. Hoeing once a week between the rows will do good, and is all the attention the plants require. In early autumn the roots may be lifted and stored, or, if necessary, they can be left in the ground, and be dug up as required. If taken up, it is best to store them in sand or dry soil to prevent shrivelling.

SCORZONERA

Those who wish for variety among winter vegetables should give a trial to Scorzonera. They

Roots of Scorzonera

would find the roots a welcome change from the ordinary greens and from the root crops commonly grown. There is nothing at all difficult

about the cultivation of this vegetable, providing it is grown on deeply dug soil that is free from fresh manure. The seed is sown late in March or early in April in shallow drills drawn from 12 to 15 inches apart, and the seedlings must be thinned to 6 inches from each other. No attention is required during summer beyond hoeing and weeding. In October the roots may be lifted and stored, or they can be left in the ground and dug as required.

SHALLOT

This is one of the most easily grown of all vegetables, and a great favourite among cottagers and allotment holders, especially those who will not take the trouble, or are unable, for some reason or other, to grow fine Onions, for which Shallots form a good substitute. There is an old gardening adage which says that Shallots should be planted on the shortest and taken up on the longest day; there is no need to follow this advice literally, but it serves as an approximate guide to the uninitiated. As a matter of fact, Shallots may be planted at any time during January or February, or even during the first fortnight of March; they will be ready for harvesting in July or early August.

Planting Shallots is the simplest thing possible; it is necessary merely to press the bulbs into the soil until they are about half covered. They ought not to be wholly covered. A convenient distance to allow between the rows is 12 inches, while the bulbs may be put at 6 or 8 inches apart. As a manurial dressing during June, soot is recommended; it should be freely scattered between the rows. About the middle of July the soil ought to be drawn away from the bulbs, so that they may be exposed to the sunshine and assisted to ripen. A few weeks afterwards they are taken up, spread out to dry in a sunny place, and then stored in a dry, frost-proof shed or outhouse, to be used as required during winter. The amateur may grow the ordinary Shallot or one of the larger or Giant varieties, such as The Russian.

TURNIP

This is a favourite vegetable, and one to which the amateur should give serious attention, for a supply may be ensured for the greater part of the year without difficulty. There is a great difference in flavour and quality between Turnips grown well and those grown badly; in fact, the

latter are most disappointing. The Turnip must be grown quickly if it is to be satisfactory, and this result can be ensured only on rich, well dug soil. On light, shallow soil, or on heavy, untilled clay ground, the Turnip is "woody," and altogether lacking in tenderness.

It is possible to obtain early dishes of this vegetable by sowing on a hotbed made up in a frame in January, or on a warm and sheltered border out of doors some time during February, but it is doubtful if such methods as these are worth the while of the amateur gardener. He will do best to sow at intervals from the end of March until the middle of August; the last sowing will provide a crop of roots for storing for use during winter. The chief sowings should be in April and May, and if a row or two of seed is sown at intervals of a fortnight or so, there will be a constant supply of fresh and tender roots.

During the height of summer, especially on light soil, the Turnip is not always a satisfactory crop, and if seed is sown at that period it should, if possible, be on slightly shaded ground, where the plants are not likely to suffer from drought. Even then the soil must be given a good soaking of water in hot, dry weather, otherwise the pro-

gress of the plants will be arrested, with the consequence that the roots will be poor and lacking in tenderness and flavour.

It is a mistake to sow Turnip seed freely on one occasion; a far better plan is to sow a little at fairly frequent intervals, according to the demand, so that there shall be no break in the supply, and that fresh, quickly grown roots shall always be available.

The necessary preparation of the ground consists in deep digging and the incorporation of decayed stable manure some 12 inches below the surface, while a scattering of superphosphate of lime at the rate of 2 ounces per square yard, a week or two in advance of sowing, is also to be recommended. On land prepared in this way Turnips grow quickly, and in six or eight weeks' time the gardener may commence to pull the roots. There is something especially gratifying about a shapely Turnip, and the gratification is increased by the fact that one has such a short time to wait for the produce after sowing the seed.

The seeds are scattered thinly in rows about 12 inches apart and are covered with an inch or two of soil. The seedlings must be thinned out in good time, otherwise they soon spoil each

other, and a weakly seedling will not produce a satisfactory Turnip. Finally, they should be about 6 inches apart.

There are numerous varieties of Turnip of various shapes and shades of colour, though despite the different names they bear many of them are much alike. Suitable varieties for sowing in spring and early summer are Snowball, Jersey Lily, Silver Ball, and Model.

The Winter Crop of Turnips is perhaps the most important of all. The time to sow is from the third week in July to the second and third weeks of August. It is not advisable to make the ground rich for this sowing, otherwise the plants may make gross, soft growth. If the crop follows early Peas or Potatoes, the ground need only be dug over. The seedlings make very rapid growth at that time of year, and too great care can scarcely be taken in thinning them early, so that each plant is able to make uninterrupted progress.

Favourite varieties for this sowing are one of the Green Top varieties, Snowball, Chirk Castle, and All the Year Round, the last-named being a yellow fleshed Turnip and of fuller flavour than the others.

Most people lift and store Turnips in October,

but, if necessary, they may be left in the ground for the winter, and be dug as required. I have practised this method and have found the losses small.

However, if the facilities for storage exist, it is no doubt preferable to lift the roots.

The Chief Pest that troubles the Turnip grower is the Turnip fly or beetle. To prevent damage by this pest it is important to assist the seedlings to make quick growth, for the attacks of the fly are chiefly to be feared while the plants are small; for this purpose wood ashes, or a little concentrated fertiliser, should be scattered in the drills before the seeds are sown. Scattering a mixture of soot and lime alongside the rows of seedlings is also advisable.

Club Root or finger-and-toe is a serious disease which may attack Turnips if they are grown continually in rich soil, and if a proper rotation of crops is not practised. The remedy is to apply a dressing of quicklime in autumn. and to discontinue the cultivation of Turnips on the same ground for two or three seasons. This disease is liable to attack other vegetables belonging to the same natural order (Cruciferae), such, for example, as Cabbage, Brussels Sprouts, and other "greens."

SIMPLE WAYS OF COOKING ROOT VEGETABLES

It is essential that all vegetables be sent to table as hot as possible. When half cold they are not only very unappetising but most indigestible.

Chinese Artichoke.—Well wash the Artichokes and cook in slightly salted *cold* water until tender but not broken. Drain very carefully. Melt 1 oz. margarine or dripping (for every pound of Artichokes) in a frying-pan; when the fat is smoking hot fry the prepared Artichokes a delicate brown. This improves the flavour and appearance. Drain on soft paper to remove as much fat as possible. Pile on a hot dish, scatter a little finely chopped Parsley over the Artichokes, and send to table very hot.

Jerusalem Artichoke.—Peel the Artichokes and put into a saucepan of boiling, slightly salted water. Cook until tender, boiling rather fast, but do not let the Artichokes become pulpy. Drain very thoroughly (this is important, as any water remaining would spoil the sauce which is served with them). Make the sauce with 1 tablespoonful flour, 1 tablespoonful margarine, 1 teacupful milk, seasoning to taste. Return the Artichokes to the saucepan, pour over the sauce, make very hot, and serve at once in a hot vegetable dish.

Beetroot Served Hot with White Sauce.—This very wholesome article of food is rarely used except as an addition to a salad or as a relish to be eaten with cold meat. Try it this way as a vegetable. Wash thoroughly and cook well a medium-sized Beetroot, peel carefully, and cut into neat slices. Make a sauce with 1 tablespoonful flour, ½ pint milk or milk and water, 1 tablespoonful margarine, seasoning to taste, and a few drops of vinegar. Return the sliced Beetroot to the saucepan, pour over the sauce, make very hot, and serve in a hot vegetable dish.

Braised Carrots.—Wash some medium-sized Carrots, and carefully scrape them. Cut into lengths about 1 inch thick and put into an iron saucepan with 2 oz. of boiling fat, one onion sliced, and ½ teaspoonful brown sugar. Cook in the fat, all together, over a gentle heat, shaking from time to time to prevent burning, until the Carrots are tender and rich brown. Drain carefully, and send to table on a very hot dish, with a border of boiled rice and fingers of fried bread.

Celeriac, Boiled.—Choose a medium-sized Celeriac, wash thoroughly, and trim neatly. Put in a saucepan with cold water, but add nothing in the way of flavouring or salt. Bring to the boil, then cook gently until tender. A medium-

sized Celeriac generally takes about one hour. When quite tender, peel and mash thoroughly with a wooden spoon, adding 1 oz. margarine, pepper and salt to taste, and a few drops of lemon juice or vinegar.

Kohl Rabi with White Sauce.—Thoroughly wash and peel the Kohl Rabi. Boil in slightly salted water until tender, but not pulpy. Drain very carefully and keep hot. Make a sauce with 1 oz. cornflour, 1 oz. margarine, 1 teacupful milk. Cook together for ten minutes, stirring all the time, until the sauce is thick and creamy. Then pour it over the prepared vegetables, which it should coat. Send to table very hot, with a dish of chipped Potatoes and fingers of fried bread.

Onion Dumplings.—To every ½ lb. of self-raising flour add 1 large Onion, finely chopped, and 2 oz. shredded suet. Mix all together very thoroughly, make into a soft dough with water or milk and water, form into small balls, and cook in a saucepan of fast-boiling water for about twenty minutes. Try with a fork; if this comes out clean, the dumpling is ready. Serve very hot with brown gravy made by dissolving one penny Oxo cube in a teacupful of boiling water, thicken with 1 teaspoonful cornflour, and boil for five

minutes, stirring all the time. Season to taste. Send all to the table very hot.

Buttered Parsnips.—Well wash and peel the Parsnips required, and cut lengthways into four. Cook in slightly salted boiling water until about half done. Drain carefully, leaving off the saucepan lid, so that the vegetable may dry. To every pound of Parsnips add 1 oz. margarine, pepper and salt to taste. Put on the saucepan lid, and cook the vegetable in the fat over a very gentle heat until quite tender. Drain carefully, put into a very hot dish, add at the last moment a few drops of lemon juice. This dish of vegetables must be served very hot, as if half cold they are uninviting and indigestible.

Baked Parsnips.—Wash and peel carefully some medium-sized Parsnips and cut into halves. Have a nice-sized pan ready with 3 oz. boiling fat. Dip each half of the vegetable into nicely seasoned flour, then put into the pan and bake in a good oven, basting a few times, and turning the vegetable until golden brown. Drain carefully. Serve on a very hot dish with a border of macaroni, which has been broken into 1-inch lengths and boiled in slightly salted water for twenty minutes.

Potatoes, Roasted.—Parboil some medium-sized Potatoes in their skins and peel carefully.

Pour a little melted dripping or margarine over each Potato, roll in coarse oatmeal, put into a deep baking dish, containing boiling fat, and cook until a nice brown, basting a few times. Send to table very hot with fingers of toast, spread with dripping or margarine (whichever has been used to cook the Potatoes in).

Savoury Potato Cakes.—Boil the Potatoes in their skins. Peel and mash thoroughly. Add 1 teaspoonful finely chopped Onion, and a pinch of mixed Savoury Herbs, to every pound of mashed Potatoes, and enough self-raising flour to make into a thick paste. Season to taste with salt and pepper. Form into flat cakes. Dip into milk and then into flour. Fry in boiling fat until golden brown. Drain very carefully on crumpled paper. Send to table very hot with fingers of dry toast.

Scorzonera with White Sauce.—Well wash and scrape the vegetables, then soak in cold water for about half an hour, adding a teaspoonful of vinegar or a few drops of lemon juice to every pint of water. Rinse thoroughly, and put into slightly salted boiling water; cook the vegetable until quite tender but not broken. Drain very carefully. Make a sauce with 1 oz. flour, 1 oz. margarine, 1 teacupful milk. Cook all together

thoroughly until the sauce clings to the spoon. Season to taste, and pour over the vegetable, which should be quite covered. Send to table very hot. Serve with rounds of fried bread.

Potatoes in White Sauce.—Steam in their skins some medium-sized Potatoes until tender. Peel carefully, cut into thick slices, and keep hot. Make a sauce with 1 oz. self-raising flour, 1 oz. margarine, and 1 teacupful milk. Cook together for five minutes, stirring all the time. Season to taste, add the sliced Potatoes, and 1 teaspoonful finely chopped Parsley. Cook for five minutes longer, pour into a very hot dish and send to table with fingers of fried bread. This is a very good way to use up cold Potatoes, or the tiny ones called "chats." Even the smallest Potatoes should be carefully used up, and not thrown out as useless on account of size.

Potato Soup.—Boil 2 large Potatoes in their skins until tender. Peel carefully, mash well, and mix with a Leek, well boiled (white part only), and chopped finely; add 1 oz. of margarine. Boil together 1 pint milk and ½ pint of water the Leek was boiled in; add the prepared Potatoes and Leek. Cook all together for five minutes, stirring all the time. Season to taste. Serve very hot with tiny squares of fried bread.

Potatoes with Carrots.—Chop coarsely an equal quantity of Potatoes and Carrots after thoroughly washing and thinly peeling them. Boil together until thoroughly cooked but not broken. Turn into a very hot vegetable dish, having drained carefully. Season to taste and pour over sauce made with thickened milk (or milk and water), allowing 1 tablespoonful of flour (self-raising if possible) to ½ pint of liquid, and 1 tablespoonful grated cheese. Serve very hot, with fried bread cut into finger lengths.

Braised Shallots.—Well wash and skin the Shallots required. Put into an iron saucepan containing enough boiling fat to half cover. Stir round with a wooden spoon until the vegetables are well coated with the fat. Cook over a gentle heat until the vegetable is quite tender (turning from time to time) and golden brown. Drain carefully on paper, season to taste. Pile in the centre of a very hot dish, serve with a border of well mashed Potatoes (previously boiled in their skins until tender). This vegetable is very useful in springtime if the young bulbs are pulled apart and used in salads.

Turnips with Potatoes.—Boil together an equal quantity of Turnips and Potatoes, adding the Potatoes when the Turnips have boiled for

twenty minutes. Cook until both vegetables are quite tender, mash together carefully with a wooden spoon, adding a little hot milk and a piece of margarine the size of a walnut, salt and pepper to taste. Beat all well together, pile on a hot dish, scatter a little finely chopped Parsley on top, and send to table very hot, with fingers of toast spread with grated cheese made very hot in the oven. Be quite sure the milk used is hot, as cold milk would make the Potatoes heavy instead of creamy.

Turnips with White Sauce.—Choose as many small round Turnips as required, wash and peel carefully, cook in slightly salted boiling water until quite tender but not "mashy." Drain very carefully and keep hot. Make a sauce with 1 oz. self-raising flour, 1 oz. margarine, ½ pint milk or milk and water. Cook all together for five minutes, stirring all the time. Pour over the prepared Turnips, and send to table in a very hot vegetable dish.

(The Notes on Vegetable Cookery are contributed by Mrs. Adelaide Garner.)

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